TOUGH Series Controller
Vehicle Mounted Generators

Have you ever been asked these tough questions by your customers:

How do I receive generator information to other devices and control modules on the vehicle's CAN J1939 bus?

How can I easily control the generator starting and stopping from a remote location on the vehicle over its CAN J1939 bus network?

How can I disable the generator from starting over the CAN J1939 bus? Or simply by sensing the availability of shore power connection (vehicle in building)? Were you aware that this is a requirement in some jurisdictions?

How can I easily connect remote engine gauges without having to run duplicate sensors out to the gauge? Can this be done over J1939? Can I have a duplicate panel in the vehicle over this two wire network?

How can I instrument sensors from the vehicle to the generator control unit, and have that data sent over the CAN J1939 bus (CO, CO2 sensors, compartment temp sensors, etc.)?

Is there an easy way we can access the generator from anywhere over the internet, for identifying location, as well as engine-generator information?

The TOUGH Series
DynaGen controller is your solution

Achieve all this functionality and much more.

RELIABLE

TOUGH

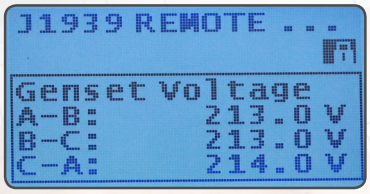
EASY TO USE

HIGHLY CONFIGURABLE

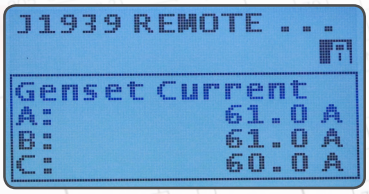
To find out more visit www.dynagen.ca

DYNAGEN®
3 Spectacle Lake Drive, Unit B105, Darmouth, NS, Canada B3B 1W8
Tel: 902-406-0133 | Fax: 902-567-0633
Toll Free: 1-888-DYNAGEN (1-888-396-2436)

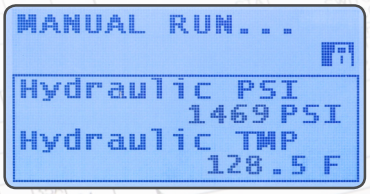
Generator shown mounted on fire rescue vehicle



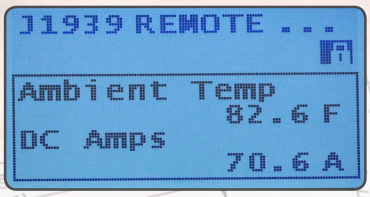
Instrumentation of AC voltage



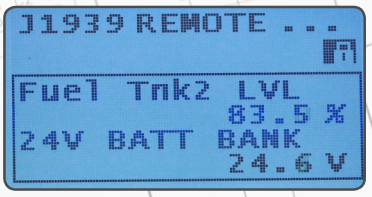
Instrumentation of AC current



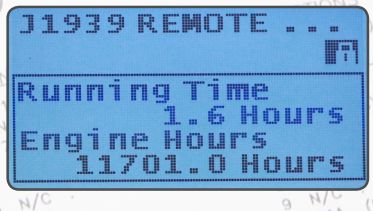
Highly programmable sensor



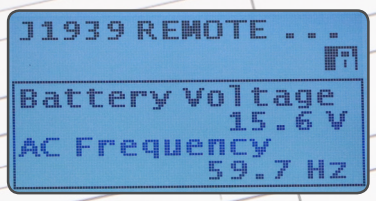
Ambient temperature and DC current



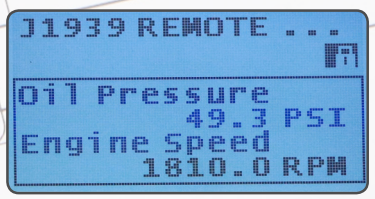
DC Battery bank and Fuel Level Tank 2



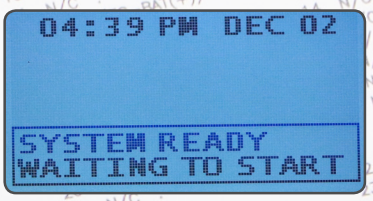
Instrumentation of Engine Hours and Current Run Time



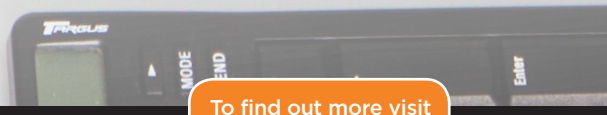
Instrumentation of AC Current and Engine Starting Battery



Engine Temperature and Engine Speed



Remote display mimic panel System Ready, Waiting to Start



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TOUGH Series
J1939 Advanced Communications

Have you ever needed to know...

- How do I broadcast J1939 data on a Mechanical Engine?
- How do I broadcast Fuel Level, AC Parameters, and Auxillary Sensor data over J1939 on an Electronic Engine?
- How do I provide Start and Stop over J1939?

The TOUGH Series is your solution.

CAN J1939 BUS

J1939 ANALOG GAUGES

WIRELESS COMMUNICATIONS (TELEMATICS)

TRP 100 REMOTE

J1939 DISPLAY PANEL

The TOUGH Series controller provides:

- Broadcasting of J1939 data on Mechanical Engines (See below).
- Broadcasting of data on Electronic engines (ECM enabled); Examples are Fuel Level, AC Parameters, Auxillary Sensor Data.
- Receiving Starting and Stopping commands over CAN J1939.
- Telematics interface over J1939

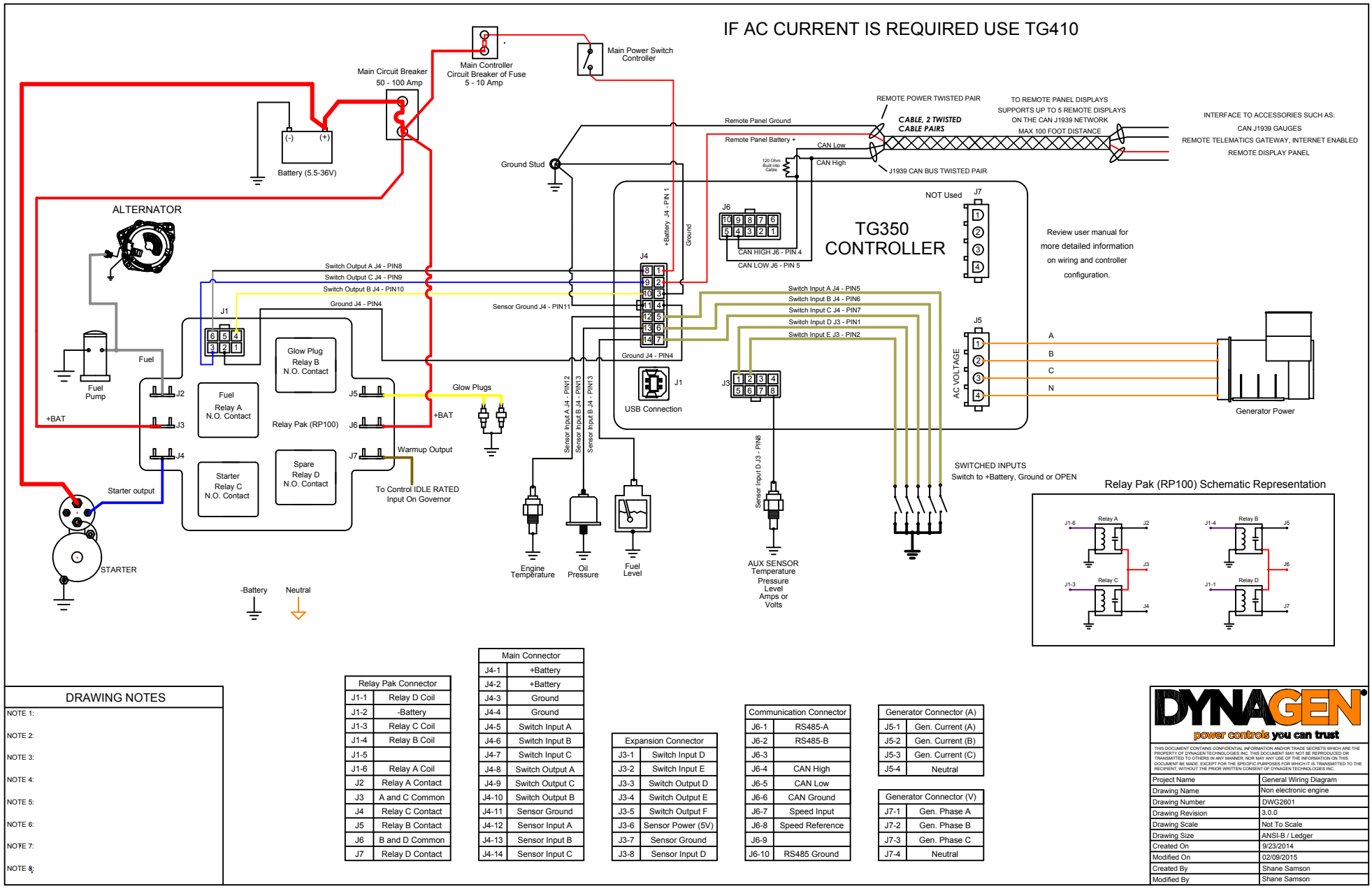
TG350 / TG410 PARAMETERS (CAN J1939)

Broadcast:

AC Sensing
L1-N, L2-N, L3-N AC Volts
L1-N AC Frequency
L1, L2, L3 AC Amps
L10L2, L2-L3, L3-L1 AC Volts

Fuel Level, System Battery Voltage,
Engine Speed, Engine Hours
Engine Coolant Temperature,
Engine Oil Pressure,
DM1 Warnings & Failures,
AUX 1, AUX 2, AUX 3, AUX 4 Sensors

Receive: **Engine Start and Stop Requests**



DRAWING NOTES

NOTE 1:

NOTE 2:

NOTE 3:

NOTE 4:

NOTE 5:

NOTE 6:

NOTE 7:

NOTE 8:

Relay Pak Connector	
J1-1	Relay D Coil
J1-2	-Battery
J1-3	Relay C Coil
J1-4	Relay B Coil
J1-5	
J1-6	Relay A Coil
J2	Relay A Contact
J3	A and C Common
J4	Relay C Contact
J5	Relay B Contact
J6	B and D Common
J7	Relay D Contact

Main Connector	
J4-1	+Battery
J4-2	+Battery
J4-3	Ground
J4-4	Ground
J4-5	Switch Input A
J4-6	Switch Input B
J4-7	Switch Input C
J4-8	Switch Output A
J4-9	Switch Output C
J4-10	Switch Output B
J4-11	Sensor Ground
J4-12	Sensor Input A
J4-13	Sensor Input B
J4-14	Sensor Input C

Expansion Connector	
J3-1	Switch Input D
J3-2	Switch Input E
J3-3	Switch Output D
J3-4	Switch Output E
J3-5	Switch Output F
J3-6	Sensor Power (5V)
J3-7	Sensor Ground
J3-8	Sensor Input D

Communication Connector	
J6-1	RS485-A
J6-2	RS485-B
J6-3	
J6-4	CAN High
J6-5	CAN Low
J6-6	CAN Ground
J6-7	Speed Input
J6-8	Speed Reference
J6-9	
J6-10	RS485 Ground

Generator Connector (A)	
J5-1	Gen. Current (A)
J5-2	Gen. Current (B)
J5-3	Gen. Current (C)
J5-4	Neutral

Generator Connector (V)	
J7-1	Gen. Phase A
J7-2	Gen. Phase B
J7-3	Gen. Phase C
J7-4	Neutral

DYNAGEN power controls you can trust

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Project Name	General Wiring Diagram
Drawing Name	Non electronic engine
Drawing Number	DWG2601
Drawing Revision	3.0.0
Drawing Scale	Not To Scale
Drawing Size	ANSI-B / Ledger
Created On	9/23/2014
Modified On	02/09/2015
Created By	Shane Samson
Modified By	Shane Samson

CONTACT DYNAGEN to discuss your application.
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